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Conventional Wisdom and Empirical Data on Inequalities in Morbidity, Use of Services and Health Expenditures

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Prepared by:

Marty Makinen, Ph.D.
Abt Associates Inc.

Hugh Waters, M.S., Ph.D.
Consultant
Abt Associates Inc.

Margie Rauch, M.H.S.
Abt Associates Inc.

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Mission

The Partnerships for Health Reform (PHR) Project seeks to improve people's health in low- and middle-income countries by supporting health sector reforms that ensure equitable access to efficient, sustainable, quality health care services. In partnership with local stakeholders, PHR promotes an integrated approach to health reform and builds capacity in the following key areas:

▲ *Better informed and more participatory policy processes in health sector reform;*

▲ *More equitable and sustainable health financing systems;*

▲ *Improved incentives within health systems to encourage agents to use and deliver efficient and quality health services; and*

▲ *Enhanced organization and management of health care systems and institutions to support specific health sector reforms.*

PHR advances knowledge and methodologies to develop, implement, and monitor health reforms and their impact, and promotes the exchange of information on critical health reform issues.

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Abstract

This paper summarizes conclusions from eight country-specific studies of inequality in the allocation of resources in the health sector. The analyses examine the socioeconomic distribution of self-reported morbidity, health service use, and household health expenditures—using existing household survey data and a common methodology. The studies measure simple deviations from equality in various aspects of the need for, use of, and spending on health services. Comparisons are made between the findings and "conventional wisdom" concerning inequalities, not across countries.

Many of the results support conventional wisdom. In general, the richer and urban, compared to the poorer and rural, have a higher probability of obtaining care when sick to be seen by a doctor, and to receive medicines when they are ill. Richer and urban groups also spend more on drugs and, in absolute terms, more on their health care overall. In several instances, however, the findings are not in clear correspondence with conventional wisdom. In terms of *self-reported* illness or injury, the richer are in ill health more than the poorer in three of the surveyed populations. Similarly, in three countries, rural residents use hospitals more than do the rich. There is no consistent pattern that richer households are more likely to use private providers. Richer households do not consistently devote a higher percentage of their consumption expenditures to health care than poorer households.

The analyses indicate that using conventional wisdom could result in misguided policy decision. It would appear to be worthwhile to measure the direction and extent of inequality to inform policymaking.

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Acronyms

ADL	Activities for Daily Living
AIDS	Acquired Immunity Deficiency Syndrome
IMR	Infant Mortality Rate
GNP	Gross National Product
LSDS	Living Standards and Development Survey
MAR	Major Applied Research
NHS	National Health Service (Britain)
OECD	Organization for Economic Cooperation and Development
OHS	October Household Survey (South Africa)
PHR	Partnerships for Health Reform
PPP	Purchasing Power Parity
USAID	United States Agency for International Development

Acknowledgments

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All errors remain the responsibility of the authors.

Executive Summary

This paper summarizes conclusions from eight country-specific studies of inequality in the allocation of resources in the health sector. The countries represent a variety of regions: Burkina Faso, South Africa, and Zambia in Africa; Paraguay and Guatemala in the Latin American region; Thailand in Asia; and Kazakhstan and Kyrgyzstan in the former Soviet Union.

The analyses examine the socioeconomic distribution of self-reported morbidity, health service use, and household health expenditures—using existing household survey data and a common methodology across countries. Each country study divides the population into "income" quintiles, estimated using reported consumption expenditures. In addition, the populations are divided into rural and urban residents. Nationally representative samples are used in the work on South Africa, Thailand, and Zambia. For the other countries sub-national samples are used.

The studies measure simple deviations from equality in various aspects of the need for, use of, and spending on health services. Data limitations preclude attempts to measure inequity. The surveys were conducted independently of one another, using questions formulated in different ways about illness and use of services, including differing recall periods. Hence, no comparisons would be appropriate and, therefore, are not made across countries. However, comparisons are made between the findings and "conventional wisdom" concerning inequalities. These comparisons are made to begin to judge the adequacy of conventional wisdom for policymaking, hence the need and desirability of performing empirical analysis.

Many of the results support conventional wisdom. In general, richer population groups and urban residents have a higher probability of obtaining health care when they are sick than the poorer and rural. Richer quintiles and urban residents are more likely to see a doctor than poorer groups. Similarly, the richer and urban have a higher probability of receiving medicines when they are ill in all of the countries studied except Paraguay. Richer and urban groups also spend more on drugs and, in absolute terms, more on their health care overall.

In several instances, however, the study produces findings that contradict or are not in clear correspondence with conventional wisdom. In terms of self-reported illness or injury, the richer are in ill health more than the poorer in the surveyed populations in South Africa, Burkina Faso, and Kyrgyzstan. The self-reporting of illness may vary from true health status, however. In three countries, rural residents use hospitals more than do the rich. There is no consistent pattern that richer households are more likely to use private providers. Richer households do not consistently devote a higher percentage of their consumption expenditures to health care than poorer households. In Burkina Faso, Thailand, and Paraguay, the upper quintiles allocate a smaller proportion of their total consumption spending to health care than do the poorer ones.

The analyses indicate that using conventional wisdom concerning inequalities in the health sector could result in misguided policy decisions. Since findings are not always in line with expectations related to inequality, it would appear to be worthwhile to measure the direction and extent of inequality to inform policymaking.

One example of unexpected findings is that the private sector is a significant provider of health care for poorer population groups in three of the countries studied. Private providers serve more than

37 percent of the individuals in the poorest consumption quintile who used care in Paraguay, South Africa, and Guatemala. Thus, it would appear to be of interest to study whether and how the private sector in these and similar countries might help to increase access for the poor and reduce inequities in access to health care. This probably would entail measures to ensure appropriate public promotion and regulation of private providers, and subsidized demand systems for the least able to pay.

These analyses indicate the desirability of additional research that would use a common methodology for the collection of data, as well as for the analysis, to facilitate cross-country comparisons. The application of more sophisticated analytic techniques also would be desirable to standardize for age and sex distributions in the income quintiles and to provide a multivariate response to some of the questions raised by the unexpected results obtained. Finally, the simple methods used here, or the more sophisticated ones suggested, could be used fruitfully to measure the impact of specific health policy changes on inequality.

1. Introduction

This paper summarizes and draws cross-country comparative results and conclusions from a set of studies of inequality in the allocation of resources in the health sector. This research was inspired by the study to measure health sector inequities in selected countries of the Organization for Economic Cooperation and Development (OECD) (Van Doorslaer, Wagstaff, and Rutten, 1993). The overall purpose of this research is to begin to adapt and apply methods developed in the OECD study, in a simplified manner.

In this paper, these methods are applied to developing countries and countries in transition. There is generally little reliable quantitative evaluation of the inequalities that exist in developing countries, in terms of either health status or access to care. Results from the application of tools to measure inequalities can therefore be important inputs into the decision process for resource allocation in the health sector in these countries. Empirical measures of the effects on inequality of resource generation and allocation decisions are major additions to the information base for making and evaluating policy decisions. In addition, the analytical methods employed here could be used to measure *ex ante* the impact of specific policy changes on inequality.

This is an analysis of the socioeconomic distribution of morbidity, health service use, and household health expenditures, using existing national and sub-national household survey data and a common methodology across countries. Each country study divides the population into per capita "income" quintiles—generally using the level of household consumption expenditures as a proxy measure of income—and also distinguishes between urban and rural residents. The results of the studies are divided into three broad categories: morbidity, use of health care, and health expenditures. For each of these categories, indicators are compared across the quintiles and also between urban and rural residents. The section on health care use includes analysis of the type of providers consulted.

In this research, a simple measurement of inequality is used, as opposed to the more complex and nuanced notion of inequity.[1] Thus, in the morbidity analyses, variations from equality are examined in self-reported illness or injury and duration of ill health. In the examination of the use of health care the analysis is a bit more sophisticated, since variations from equality of use when ill or injured by the socioeconomic groups are considered. The comparisons made on expenditures again use the simple measure of variation from equality. Lack of confidence that the data available accurately measure absolute income levels[2] meant that reliable comparisons of health expenditures as a share of income were not possible.

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[1] See Wagstaff and Van Doorslaer for a broad discussion of how to define equity.

[2] The data available (largely self-reported consumption expenditures) are considered reliable for dividing population into relative income groups, however.

This work includes analyses of the following eight developing countries and countries in transition:

- Burkina Faso

- Guatemala

- Kazakhstan

- Kyrgyzstan

- Paraguay

- South Africa

- Thailand

- Zambia

2. Background: Previous Research and the Conventional Wisdom

2.1   Previous Research

In their study for the OECD referred to above, Van Doorslaer, Wagstaff, and Rutten (1993) define many of the issues related to equity in the health sector, and compare equity in health care financing and in the distribution of health services in 10 industrialized countries. The authors had access to detailed tax and financing information, in addition to household surveys from each of the countries. In developing countries, reliable data for the financing of health services are often not available, complicating the estimation of equity in the financing of health care.

Studies by Le Grand (1978) and Mapelli (1993) measure equity using indicators of health status in Britain and Italy, respectively. O'Donnell and Propper (1991) studied the distribution of National Health Service (NHS) resources in Britain, comparing utilization and expenditures among the different economic quintiles. They calculated the average number of physician visits, inpatient stays, and average NHS expenditure, and found evidence of a slightly pro-poor bias in the distribution of NHS resources.

Existing studies of health sector equity in developing countries have found that the distribution of public health services is inequitable. For example, in Indonesia in 1990, only 12 percent of government spending for health was for services consumed by the poorest 20 percent of households, while the wealthiest 20 percent consumed 29 percent of the government subsidy in the health sector (World Bank, 1993).

Baker and van der Gaag (1993), in the Van Doorslaer, et al. volume, compared health status indicators, use of health services, and health expenditures across quintiles and rural/urban areas in five developing countries. Their study used the same definition of access to health care—the use of health services during the survey recall period by persons with self-reported morbidity—as the Major Applied Research studies on equity that are summarized in this paper. Their results show that the percentage of those with an illness or injury who receive health care varies widely by consumption quintile in these countries.

Beyond these results, there are few quantitative estimates of equity of health sector equity, or even inequality, in developing countries. The results reported here make a preliminary effort to fill this gap, building on the work of Van Doorslaer et al. (1993) and Baker and van der Gaag (1993)—inspired by, adapting, and applying their techniques to a wide range of developing countries and countries in transition and comparing the results to conventional wisdom.

2.2   The Conventional Wisdom

This study compares the results from the country studies with the conventional wisdom concerning inequality in the health sector—to determine if the conventional wisdom is correct. Conventional wisdom is used to mean that which is taken to be true without necessarily having been

confirmed by objective research. Conventional wisdom often is the only basis on which policy decisions are taken, given the absence of concrete data. If the conventional wisdom proves to be a reliable reflection of reality, then there may be little reason to go through the effort to gather and analyze data. However, if the conventional wisdom is wrong, or even sometimes misleading, policy made using it may be misguided. The statement of what is conventional wisdom necessarily has to make generalizations that do not hold across all of the concerned countries. This should be held in mind when reading and interpreting the results presented in this paper. To facilitate the comparison between the study results and conventional wisdom,[3] the major elements of the latter are cited here together:

- *Morbidity*: The conventional wisdom states that poorer and rural population groups are ill more often and more severely than wealthier, urban groups. The study by Mapelli (1993), referred to above, found that the worst-off social groups are also the most vulnerable to poor health.

- *Seeking care*: The conventional wisdom states that wealthier and urban groups are more likely to get some kind of care when ill, and are more likely to be seen by doctors and to use hospitals and private providers. Newbold et al. (1995) found that, in Canada, income has a positive effect on whether hospitals are used for care, but not on the quantity of services used. The study by Baker and van der Gaag (1993) shows that wealthier population groups are more likely than poorer groups to receive health care when sick, in several developing countries. However, there are few empirical results available to confirm or contradict the assumption that the wealthy also are more likely to be seen by doctors and to use hospitals and private providers.

- *Health expenditures*: The conventional wisdom suggests that poorer and rural groups spend less overall than the richer and urban groups, but are more likely to have to purchase drugs than to have them paid for by a third party. The conventional wisdom concerning the relationship between income and health expenditures is complex. It is generally the case that higher income countries spend a greater percentage of their gross national product (GNP) on health care than poorer countries, but, within specific countries, there is little evidence concerning the share of income devoted to health by income level (Folland et al., 1992). For the distribution of public health expenditures, studies from Britain (O'Donnell and Propper, 1991) and Italy (Mapelli, 1993) present conflicting results—public health expenditures are found to benefit relatively poorer groups in Britain and to benefit wealthier groups in Italy. Studies reported in the 1993 *World Development Report* show that, at least in some developing countries, wealthier population groups consume a disproportionately high percentage of the government subsidy in the health sector (World Bank 1993).

This paper presents explicit comparisons of the actual results of the eight country studies with the elements of conventional wisdom above. These comparisons are made throughout the discussion of the results in Sections 5, 6, and 7. Section 8, "Conclusions," presents a summary of the comparisons of the study results with the conventional wisdom.

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[3] The conventional wisdom definitions offered come from the individual country study authors, who collectively have many years of interactions with health policymakers in developing countries and countries in transition.

3. Countries and Data Sources for the Study

Table 1 provides basic information on the eight countries that are included in this study. These countries vary in size—from populations of approximately 4.5 million in Kyrgyzstan to 58.2 million in Thailand—and also in income level. Measured in purchasing power parity terms, GNP per capita in the eight countries in 1995 varied from $780 in Burkina Faso to $7,540 in Thailand.

Table 1. Basic Country Indicators

Country	Population (millions)	GNP per capita ($)	GNP per Capita ($–PPP)*	Life expectancy at birth	Infant Mortality Rate per 1,000	Public per capita health spending ($)	Doctors per 100,000 1993	Nurses per 100,000 1993
Burkina Faso	10.4	$230	$780	49	99	$1.90	2 (1990)	60 (1990)
Guatemala	10.6	$1,340	$3,340	66	44	$12.06	90	30
Kazakhstan	16.6	$1,330	$3,010	69	27	$29.26	360**	1110***
Kyrgyzstan	4.5	$700	$1,800	68	30	$25.90	310**	-
Paraguay	4.8	$1,690	$3,650	68	41	$42.25	67	10
South Africa	39.9	$3,160	$5,030	64	50	$104.75	59	175
Thailand	58.2	$2,740	$7,540	69	35	$38.36	24	99
Zambia	9.0	$400	$930	46	109	$6.54	9 (1990)	167 (1990)

Sources: Country case studies; World Bank 1995 and 1997; and United Nations Development Programme 1998.
Notes:
All figures are from 1995, except where indicated.
*PPP = Purchasing Power Parity used as conversion rather than exchange rates.
**In countries of the former Soviet Union, one of the reasons for the higher number of medical doctors is that this number includes some professions that are not considered medical doctors in other countries (e.g., hospital administrators and others with MDs).
***The number of nurses per 100,000 for Kazakhstan includes all middle level health personnel, including nurses, feldshers, midwives, etc.

The countries also vary in terms of the health status of their populations and the nature of the their health systems. Life expectancy in Burkina Faso and Zambia, the latter particularly affected by the HIV/AIDS pandemic, is just 49 years and 46 years respectively. In the countries from the former Soviet Union, Kazakhstan and Kyrgyzstan, it is 69 years and 68 years.

The former Soviet countries inherited socialist health systems with wide coverage rates and little private sector provision of services. The other countries have a mixture of public and private provision; in Burkina Faso, South Africa and Zambia, traditional medicine also represents an important source of health care for many people.[4] Public sector health spending, measured on a per

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[4] The health systems of each of the countries are described in detail in the individual country studies, which are available upon request from the Partnerships for Health Reform (PHR) Project.

capita basis, is relatively low in all eight countries, ranging from about $2 in Burkina Faso to $105 in South Africa.

Table 2 describes the principal data sources used in the country studies. At least one major household survey is employed in each country. In each of the eight countries, existing household data sets were used for the research reported in this paper. The surveys are not standardized across countries. All of the data sets do include information on the consumption level of the household (measured by expenditures),[5] as well as individuals' self-reported illnesses in a defined recall period and actions taken by those who reported illness. The surveys all also include information on the type of provider consulted, if any, and direct expenditures on health care for those seeking care.

But there are also important differences among the surveys. The sample sizes vary, as do the geographic areas covered and the statistical power of the surveys to explain what is occurring in the countries. The South Africa and Zambia surveys used are both nationally representative and have large sample sizes.

The other surveys are not representative at the national level but are statistically representative of specific geographic regions, covering varying proportions of the national population as reported in Table 3. The Burkina Faso survey gathered information on health seeking behavior in three mainly rural provinces. Within each of the provinces a random sample of 624 households was drawn. Thus, the sample is random and representative of each of the provinces. The Kazakhstan and Kyrgyzstan surveys were conducted using random sampling techniques and include sample weights. However these two surveys have incomplete data on many key questions—including household consumption, morbidity, and health care seeking data. As a result, the effective sample sizes for most of the analysis are smaller than the full samples for these two studies. Because the missing observations may be different in important ways from the ones for which there are data, the two surveys cannot be considered statistically representative.

The limitations of the surveys affect the degree of generalization that may be made from their results for national or sub-national policy. Nonetheless, the survey data do permit the purposes of this research to be realized. That is, the research can address (1) the reliability of conventional wisdom in assessing the equitability of a health system and, hence, as a basis for policymaking and (2) the feasibility of conducting this kind of analysis in developing countries and countries in transition.

One additional caution is in order in interpreting the results presented. Since the surveys were conducted independently from one another, the questions concerning the occurrence of illness, health care seeking behavior, expenditures on care, etc. were not all asked in the same way. Further, respondents in different cultures with identical objective conditions are likely to respond differently even to identically formulated questions. Thus, this paper does not make comparisons of the results among the countries, nor does it recommend that others do so.

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[5] The Burkina Faso analysis includes estimation of the value of own-consumption of agricultural products by subsistence farmers.

Table 2. Main Household Surveys Used

Country	Survey Name	Year	Geographic area	% national population covered	Represen-tative?	Sample size (indiv.)	Recall period
Burkina Faso	Burkina Faso Household Survey	1994	3 provinces	6%	No	2,175	2 weeks
Guatemala	Household Health Care Demand and Expenditure Survey	1997	4 departments	15%	Yes	14,824	30 days
Kazakhstan	South Kazakhstan Oblast Household Health Utilization Survey	1994	1 oblast (region)	12%	No	6,818*	4 weeks
Kyrgyzstan	Social Services Household Survey	1996	2 regions	_	No	2,901*	4 weeks
Paraguay	Demand and Expenditure Survey	1996	6 departments	50%	Yes	11,750	2 weeks
South Africa	Living Standards and Development Survey	1993	National	100%	Yes	40,284	2 weeks
Thailand**	Socioeconomic Surveys (for expenditures)	1986	National	100%	Yes	10,814***	—
	Socioeconomic Surveys (for expenditures)	1992	National	100%	Yes	13,458***	—
	Health and Welfare Surveys (for health actions)	1986	National	100%	Yes	79,189	2 weeks
	Health and Welfare Surveys (for health actions)	1991	National	100%	Yes	94,964	2 weeks
Zambia	Living Conditions Monitoring Survey	1996	National	100%	Yes	61,547	2 weeks

*The Kazakhstan and Kyrgyzstan surveys have incomplete information on consumption and some health questions, so the effective sample sizes are considerably smaller.

**The analyses performed for Thailand combined data from the socioeconomic and health and welfare surveys.

***For the two socioeconomic surveys in Thailand the figure given is for the number of *households* in the sample, not individuals.

4. Methodology: Defining and Measuring Inequality

These studies measure deviations from equality in various dimensions of the need for, use of, and spending on health services. They do not attempt to measure equity or inequity. The limitations of the data sets available for the work make a pragmatic approach necessary. Thus the information is presented in the form of deviations from equality among several measures, without drawing normative conclusions.

In one way, the studies approach the issue of equity. They measure variations in the use of health services for those with self-reported morbidity. To achieve equity, those who are ill would have an equal probability of receiving care, regardless of socioeconomic status or place of residence or other distinguishing feature. Otherwise the country studies' analyses are conducted in terms of variations from equality.

To quantify the variations, the country studies perform comparisons among "income" quintiles (see below) and also between urban and rural residents. The results, calculated in this manner and presented both numerically and graphically, are relatively easy to comprehend and explain to policymakers. More complex analysis, using concentration curves and indices as described in Van Doorslaer, Wagstaff, and Rutten (1993), may be conducted in the future.

To measure inequality in terms of either illness or the use of health services across different socioeconomic groups, it is clearly necessary to establish a definition of economic status. The level of *consumption* is generally recognized as a measure that is superior to point measures of income, since at a single point in time income does not reflect longer-term income, nor permanent wealth, and can be seasonally variable (Atkinson, 1985).[6] Further, consumption data gathered in household surveys is considered more reliable than self-declared income. Consumption is equal to the total value of household expenditures measured over a specific period of time. Thus, consumption is used in this analysis as an estimate of long-term "income."

The studies described here all use self-reported consumption expenditures as the main indicator for measuring the "income" level of the household relative to other households in the given survey sample. Households sampled in each survey are divided into: (1) five equal-sized groups (quintiles) based on their reported level of per capita consumption and (2) residents of rural and urban areas.

This summary document presents the results of the inequality analyses organized as described below. In each case, the results are presented for both "income" quintiles and urban-rural residents.

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[6] Consumption measured by expenditures is not a perfect measure of welfare since it does not capture consumption that was not directly paid for, such as food produced and eaten at home and "rents" for owner-occupied homes (Glewwe and van der Gaag, 1988; Deaton and Muellbauer, 1980). Among the household surveys used for the analysis in this paper, the Burkina Faso survey includes estimated values of the household's consumption of its own production.

The results are available for all or most of the country studies for each of the following categories of analysis:[7]

- ▲ Self-reported morbidity during the survey recall period

- ▲ The percentage of those reported sick that seek and receive health care

- ▲ The percentage of those seeking care that are seen by a doctor

- ▲ The percentage of those seeking care going to a hospital

- ▲ The percentage of those seeking care going to a private provider

- ▲ The percentage of those sick that received medicine

- ▲ Average expenditures on drugs for those ill

- ▲ Per capita annual household health expenditures

- ▲ Health expenditures as a percentage of all household consumption

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[7] In cases where countries are omitted from the tables and graphs, the country studies did not include the analysis in question. Also, several of the country studies include additional analyses beyond what is included in this summary, particularly analyses related to the duration of illness episodes, prenatal care, and deliveries.

5. Results: Self-Reported Morbidity

Graph 1 shows the percentage of each quintile that reported some type of illness or injury during the recall period[8] of the surveys.

Graph 1. Percentage Reporting Morbidity During Recall Period
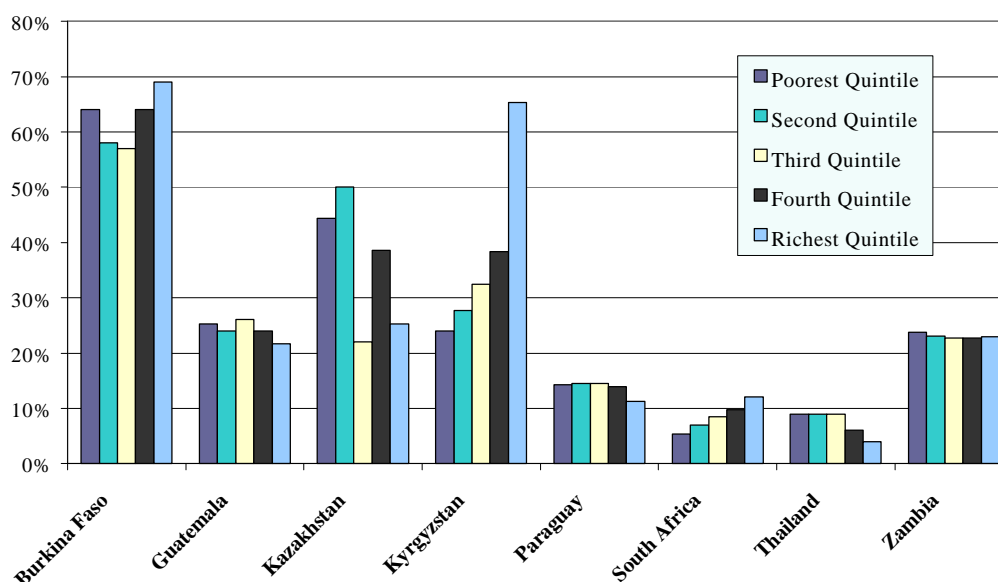
There are large differences among the countries in terms of the distribution of morbidity among economic groups. Because different recall periods were used among the surveys, questions were asked differently, and cultural differences affect perception of what constitutes illness, comparisons of self-reported illness among countries are not recommended.

The conventional wisdom concerning morbidity—that wealthier population groups are less often sick—does not correspond to *self-reported* illness of inquiry. Objectively determined, the poorer and rural may be ill more often, but they may not report illness so frequently when asked in a survey. (Schultz and Tanzel, 1997 and Strauss, et al., 1993). Thus, it is not completely fair to compare the results of the surveys to conventional wisdom concerning the objective situation. Nonetheless, it may be of interest to policymakers when richer and urban populations feel that they are ill more than the poorer and rural.

In Guatemala, Kazakhstan, and Paraguay there are slight patterns in self-reported morbidity favoring the wealthier quintiles (in terms of being ill less often). But in South Africa, Burkina Faso, and especially Kyrgyzstan there are notable patterns favoring poorer quintiles in the distribution of morbidity—wealthier population groups tend to report greater morbidity.

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[8] See Table 2 for the recall periods used by each survey.

These results are compatible with separate analyses of the Living Standards Measurement Survey and other household survey data that have found higher self-reported morbidity for wealthier groups (Waters, 1998). It is likely that wealthier and better educated individuals are more aware of health problems that they have. In addition, richer people and urban residents often are more likely to have health insurance coverage that allows them to seek treatment without making out-of-pocket expenditures, making the seeking of care more likely, hence recall of illness more likely. This would be particularly applicable to the South Africa and Thailand cases. In the former Soviet countries, certified illnesses permit people to be formally excused from work. Rural residents are more likely to have informal work (e.g., in agriculture), thus less incentive to seek excuse from work, hence lower probability to self-report illness. Further, there may be cultural and ethnic differences within countries that affect how individuals view their own health—and these differences affect results.

The age and sex distribution of the income quintiles may be hypothesized to affect the distribution of morbidity. Analyses of the age and sex distributions of the samples were performed for the Guatemala and Paraguay studies. Analysis of the age, but not sex, distribution was performed for South Africa. For all three of these countries, an analysis of self-reported illness by age was performed. A selection of these results is shown in Table 3a.

Table 3a. Age and Sex Distributions of Quintiles; Relative Probability of the Elderly Self-Reporting Illness or Injury for Selected Countries

Country	Quintile (poorer to richer)					
	Q1	Q2	Q3	Q4	Q5	Average
Guatemala % of 65 and older	28	22	18	15	17	20
Guatemala % female	52	53	51	51	51	51
Guatemala 65 and older ill/injured vs. sample*	151	161	181	164	181	165
Paraguay % of 65 and older	30	19	15	17	19	20
Paraguay % female	49	49	52	51	52	50
Paraguay 65 and older ill/injured vs. sample*	188	231	155	261	185	198
South Africa % of 65 and older	18	20	20	19	23	20
South Africa 65 and older ill/injured vs. sample*	308	298	244	236	155	234

*Expressed as an index, where 100 is the sample mean.

The expectation is that older people have more ill health or injuries than younger. This expectation is borne out in all three countries. Those 65 and older have indices of self-reported illness or injury much greater than 100. In South Africa the elderly self-report relatively less ill health in higher income quintiles. In the other two countries there is no clear pattern by income group. The expectation is that females have more ill health than males because of illnesses related to reproduction. No data are available on this question from the survey analyses.

In Guatemala and Paraguay there are relatively more elderly in the poorer end of the income distribution. In South Africa, the opposite is the case. Thus, the higher numbers of elderly in the poorer quintiles in Guatemala and Paraguay would tend to make self-reported ill health higher among the poor. An adjustment for this would tend to diminish the finding that ill health is greater among the poor in these countries (see Graph 1). In South Africa the older are more concentrated in the higher income groups, but these wealthier elderly report fewer, not more, illnesses. Thus, it is impossible to

tell what influence this age structure has on the result that the richer report more ill health than the poorer. Finally, the variation in the proportion of the quintiles that is female in Paraguay and Guatemala is very limited. Thus, the impact of sex on the results found is likely to be limited.

Table 3b presents self-reported illness distinguishing urban and rural residents. Again, there are no clear patterns in the urban-rural comparison. In five of the countries, higher morbidity levels are reported for rural populations than for urban. For three countries, this pattern is reversed. Two of the three countries where urban residents have higher self-reported morbidity than their rural counterparts are former Soviet countries: Kazakhstan and Kyrgyzstan. In these three countries there may be several possible explanations for these results. Rural populations have a different level of knowledge concerning health and illness than do urban residents. The rural may not consider some conditions or symptoms to be illnesses that better-informed urban dwellers would. Rural populations are busy with farm work that does not "allow them to be ill." Further, the distance to be traveled to health facilities often is long and costly, so rural residents consider minor illnesses to not be real illnesses, since they may go away without the need to travel for treatment.[9]

Table 3b. Percentage of Sample Reporting Morbidity, by Area of Residence

Country	Area of Residence		
	Rural	Urban	Average
Burkina Faso	71	60	62
Guatemala*	26	21	24
Kazakhstan*	31	36	34
Kyrgyzstan*	32	69	38
Paraguay	15	13	14
South Africa	8	10	9
Thailand (1986)	7	5	7
Thailand (1991)	9	5	7
Zambia	26	21	23

* Guatemala has a recall period of 30 days; Kazakhstan and Kyrgyzstan have recall periods of four weeks; all others are two weeks.

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[9] See the individual country studies for further discussion of these points.

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6. Results: Health Care Use

6.1 The Percentage of Those Sick Seeking Health Care

In contrast to the findings on morbidity, the patterns of care seeking among the economic quintiles do tend to correspond to the conventional wisdom that wealthier and urban population groups have a higher probability of obtaining health care when they need it. Graph 2 shows that there is an upward trend by quintile in health care use for those reporting illness in all of the applicable countries, with the exception of Kyrgyzstan, whose picture is mixed.

Graph 2. Percent of Sample Seeking Care when Ill

Wealthier population groups clearly enjoy preferential access to health care in the country studies summarized here. Table 4 shows that urban residents are more likely than rural residents to use health care when sick in all of the country studies for which these data are available.

Table 4. Percentage of Those Sick Seeking Care, by Area of Residence

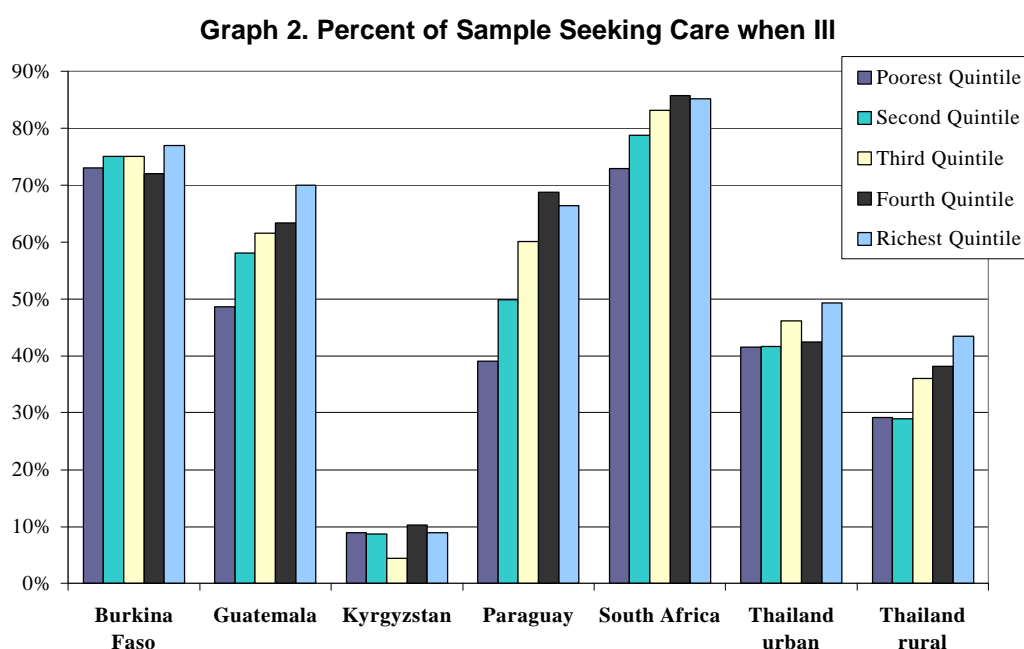| Country	Area of Residence		
	Rural	Urban	Average
Burkina Faso	72	84	75
Guatemala*	57	68	59
Kyrgyzstan*	8	9	8
Paraguay	44	62	54
South Africa	81	84	82
Thailand (1986)	32	46	35

* Guatemala has a recall period of 30 days; Kyrgyzstan has a recall period of four weeks; all others are two weeks.

6.2   Health Care Provided by Doctors

The percentage of individuals seeking health care seen by a doctor is quite low in Burkina Faso—just 13 percent of those reporting morbidity during the recall period. But in each of the other country studies for which the applicable data are available, more than half of the individuals seeking care reported being seen by a doctor (Table 5a)—ranging from 65 percent in Kyrgyzstan to 79 percent in Guatemala. As the conventional wisdom predicts, the wealthier consumption quintiles are generally more likely to be seen by a doctor than poorer groups.[10]

Table 5a. Percentage of Those Seeking Care Seen by a Doctor, by Quintile

Country	Quintile (poorer to richer)					
	Q1	Q2	Q3	Q4	Q5	Average
Burkina Faso*	8	12	16	10	19	13
Guatemala	54	67	81	89	92	79
Kazakhstan*	89	81	100	94	84	88
Kyrgyzstan*	46	64	61	84	65	65
Paraguay	60	75	76	87	96	77
South Africa	55	63	73	75	85	72
Thailand (1991)	28	33	41	42	51	38

* Samples sizes for Burkina Faso, Kazakhstan, and Kyrgyzstan are limited (fewer than 400 observations reporting an illness).

Similarly, Table 5b shows that urban residents are more likely to be seen by a doctor than rural residents in all of the countries studied. This finding is consistent with the conventional wisdom and is related to the fact that in most countries there are higher concentrations of physicians in cities than in rural areas.

Table 5b. Percent of Those Seeking Care Seen by a Doctor, by Area of Residence

Country	Area of Residence		
	Rural	Urban	Average
Burkina Faso*	6	27	13
Guatemala	73	91	79
Kazakhstan*	87	89	88
Kyrgyzstan*	65	67	65
Paraguay	64	85	77
South Africa	58	82	72
Thailand (1991)	29	48	38

* Samples sizes for Burkina Faso, Kazakhstan, and Kyrgyzstan are limited (fewer than 400 observations reporting an illness).

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[10] The figures for Kazakhstan and Kyrgyzstan are somewhat distorted by the small sample sizes for the surveys in those countries, but they still demonstrate an underlying pattern of use of doctors favoring the richer quintiles. In these formerly Soviet countries, physicians continue to play a dominant role in the health system. Additionally, the data for Thailand are not available in the same format, but show that the percentage of sick individuals who sought care and were seen by a doctor rose from 18 percent in 1986 to 38 percent in 1991. The richer quintiles saw doctors more than the poorer in both 1986 and 1991 in Thailand. In 1986, 14 percent of ill persons in the poorest quintile saw a doctor while the corresponding figure was 23 percent for the richest quintile.

6.3   Health Care Provided in Hospitals

In contrast to being seen by doctors, there are no clear patterns in terms of the percentage of those ill who are treated in hospitals (Graph 3). In Guatemala, there is a clear trend that wealthier individuals are more likely to receive care in a hospital. But in Kazakhstan, Kyrgyzstan, South Africa, and Zambia, this pattern is reversed.

Graph 3. Percentage of Those Seeking Care Going to a Hospital
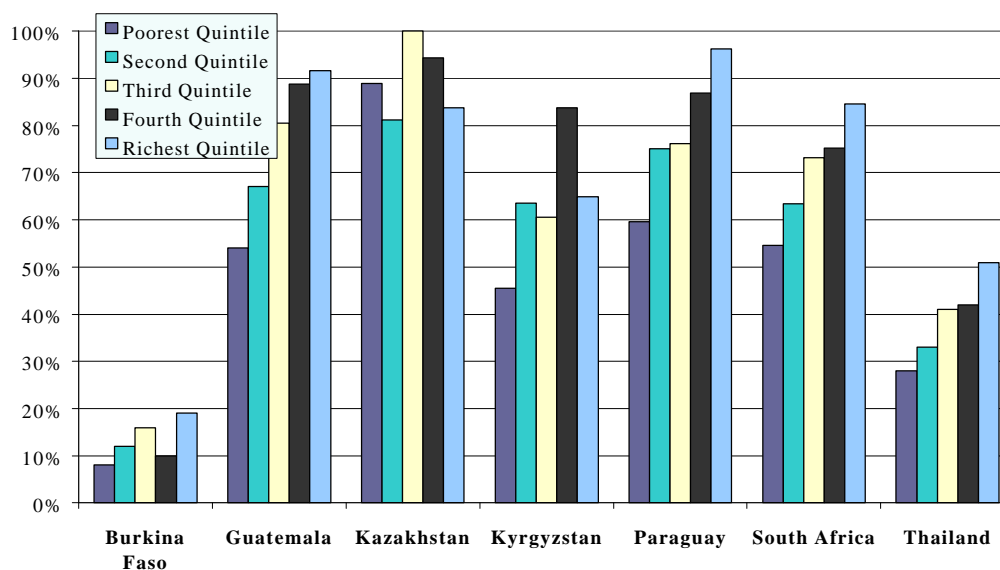
Likewise, the differences between urban and rural areas in the probability of treatment in hospitals are not consistent from one country to another (Table 6). In Burkina Faso, there are few individuals who use hospitals—a finding related to the fact that the survey sample is predominantly rural. But in Kazakhstan, Kyrgyzstan, and South Africa, more rural residents use hospitals when they are ill than urban residents—again contradicting general conventional wisdom in this area.

**Table 6. Percentage of Those Seeking Care Going to a Hospital,
by Area of Residence**

Country	Area of Residence		
	Rural	Urban	Average
Burkina Faso*	3	45	17
Guatemala	66	84	72
Kazakhstan*	73	31	43
Kyrgyzstan*	12	8	11
South Africa	28	23	25
Thailand (1991)**	15	45	27
Zambia***	12	38	26

*Sample sizes for Burkina Faso, Kazakhstan, and Kyrgyzstan are limited (fewer than 400 observations reporting an illness).
**Thailand data include private hospitals only.
***Zambia is for government hospitals only.

The underlying explanations for the patterns in hospital treatment are likely to be country-specific. In Kazakhstan and Kyrgyzstan there are more hospitals available in rural and poorer areas than is the case in other countries. Further, the difference in quality of care between hospitals and ambulatory facilities is great. In other countries, the use of hospitals is clearly correlated with use of the public sector; hospitals tend to be predominantly public. Since wealthier households are more likely to use private care (see the following section), they are also less likely to use hospitals.

6.4   Health Care in the Private Sector

Not all of the country studies contain sufficient information to analyze the use of private providers. Among those that do, only South Africa and Guatemala show a clear pattern supporting the conventional wisdom that wealthier households are more likely to use the private health sector (Tables 7a and 7b). In general, however, the studies show that the private sector plays an important role as a provider of health care, serving between 56 percent and 60 percent of those who sought care in Paraguay, South Africa,[11] and Guatemala.

Table 7a. Percentage of Those Seeking Care Going to a Private Provider, by Quintile

Country	Quintile (poorer to richer)					
	Q1	Q2	Q3	Q4	Q5	Average
Guatemala	39	44	66	59	76	60
Paraguay*	70	74	57	56	67	56
South Africa	37	43	45	55	83	58
Thailand (1991)	8	11	16	20	27	15
Zambia**	16	18	23	21	22	20

*Paraguay: Social Security facilities considered to be public.
**Zambia: definition includes traditional healers.

Additionally, in Thailand the overall percentages using the private sector are relatively low, but still show a clear trend that richer and urban groups disproportionately use private providers. In the 1986 Health and Welfare Survey in Thailand, just 3.3 percent of those sick in the poorest quintile used a private clinic, compared to 20.3 percent for the fifth quintile. The proportion of all income groups using private providers rose between 1986 and 1991. In the 1991 survey, 8.2 percent of the poorest quintile used private clinics and hospitals, compared to 27.0 percent for the richest quintile.

The definition of private health care provider employed in the Zambia, Burkina Faso, and South Africa studies includes traditional healers. This definition helps to explain the finding that rural residents in Burkina Faso are twice as likely as city residents to use a private provider (Table 7b). But in Zambia, where less than 3 percent of those using some type of care reported going to a traditional practitioner, there is no significant difference between urban and rural residents in the use of the

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[11] In the case of South Africa, there were problems with the Living Standards and Development Survey (LSDS) questionnaire that led the researchers to suspect that the levels of private sector utilization may have been overestimated. Another nationally representative household survey, the 1995 October Household Survey (OHS), reports lower levels of use of private sector services (39 percent overall). The OHS levels are particularly lower than the LSDS results in rural areas. However, the patterns are the same: in both surveys the percentage who used private services increases with estimated incomes in both urban and rural areas.

private sector. In South Africa, the higher use of private providers by wealthier and urban population groups is closely related to supply issues—there are relatively few for-profit private providers and there is low insurance coverage in rural areas.

Table 7b. Percent of Those Seeking Care Going to a Private Provider, by Area of Residence

Country	Area of Residence		
	Rural	Urban	Average
Burkina Faso*†	58	29	48
Guatemala	57	67	60
Paraguay**	56	55	56
South Africa	49	65	58
Thailand (1991)	9	24	15
Zambia†	20	20	20

*The sample size for Burkina Faso is fewer than 400 observations reporting an illness.
**Paraguay: Social Security facilities considered to be public.
†Burkina Faso and Zambia: definition includes traditional healers.

6.5 Receiving Medicines

Tables 8a and 8b show that the data support the conventional wisdom that richer and urban groups are more likely to receive medicines when they are ill—in all of the countries except for Paraguay, where this pattern is reversed.

Table 8a. Percentage of Those Ill Buying or Receiving Medicine, by Quintile

Country	Quintile (poorer to richer)					
	Q1	Q2	Q3	Q4	Q5	Average
Burkina Faso	26	33	31	36	38	33
Kyrgyzstan	8	11	14	10	14	12
Paraguay	50	37	40	31	28	38
South Africa	11	12	10	12	31	17
Thailand (1991)	47	43	41	46	38	43

These data are for those who bought medicines.

Table 8b. Percentage of Those Ill Buying or Receiving Medicine, by Area of Residence

Country	Area of Residence		
	Rural	Urban	Average
Burkina Faso	33	26	31
Kyrgyzstan	11	8	14
Paraguay	37	50	40
South Africa	12	11	10
Thailand (1991)	44	43	43

These data are for those who bought medicines.

7. Results: Expenditures

7.1   Spending on Drugs

Measured in U.S. dollar terms, spending on drugs during the survey recall period varies widely in the country studies included here—from just $0.57 per person reporting an illness in Burkina Faso to $24.44 in Kyrgyzstan (Tables 9a and 9b).

Table 9a. Average Expenditures on Drugs for Those Ill, by Quintile ($)

Country	Quintile (richer to poorer)					
	Q1	Q2	Q3	Q4	Q5	Average
Burkina Faso	0.68	0.41	0.38	0.47	0.64	0.57
Kazakhstan*	13.43	10.09	10.10	14.30	18.60	14.30
Kyrgyzstan	7.28	54.75	24.03	26.89	17.56	24.44
South Africa	0.49	1.00	0.58	1.22	12.22	4.10
Thailand (1992)	4.28	5.13	5.58	7.15	8.18	6.07

Data are for all household expenditures on medicines for the sick individual made during the survey recall period.
*Kazakhstan has a recall period of four weeks; all others are two weeks.

Table 9b. Average Expenditures on Drugs for Those Ill, by Area of Residence ($)

Country	Area of Residence		
	Rural	Urban	Average
Burkina Faso	0.43	0.98	0.57
Kazakhstan*	16.70	12.19	14.30
Kyrgyzstan	27.46	18.57	24.44
South Africa	1.10	6.80	4.10
Thailand (1992)	5.29	6.91	6.07
Zambia	0.47	1.15	1.15

*Kazakhstan has a recall period of four weeks; all others are two weeks.

In all cases the conventional wisdom that richer groups spend more on drugs than poorer groups is supported by the data. In Thailand, using the 1992 data, individuals in the first quintile spent approximately $4 per capita on medicine during the recall period while those in the fourth and fifth quintiles spent approximately $7 per capita.

Likewise, urban residents tend to spend more on drugs than those in rural areas (Table 9b). This is true for all of the country case studies with the exception of Kazakhstan and Kyrgyzstan. In these two countries the findings may be due to a scarcity of medicines in rural areas that drives up prices.

7.2 Overall Household Expenditures

Turning momentarily from health care and health expenditures, Tables 10a and 10b show total household average annual per capita consumption as estimated from the survey data.

Table 10a. Annual Per Capita Household Consumption, by Quintile ($)

	Quintile (poorer to richer)					
Country	Q1	Q2	Q3	Q4	Q5	Average
Burkina Faso	34	84	122	219	446	181
Guatemala	154	240	324	455	873	361
Kazakhstan	48	99	140	192	390	172
Kyrgyzstan	54	94	135	211	580	214
Paraguay	489	842	1,228	1,808	6,060	2,085
South Africa	211	402	652	1,187	4,421	1,377
Thailand (1992)	368	531	784	1,209	2,661	1,111

Table 10b. Annual Per Capita Household Consumption, by Area of Residence ($)

|	Area of Residence		
Country	Rural	Urban	Average
Burkina Faso	172	214	181
Guatemala	304	548	361
Kazakhstan	150	195	172
Paraguay	1,678	2,334	2,085
South Africa	688	2,166	1,377
Thailand (1992)	608	1742	1,111

These numbers clearly differ from the GNP per capita figures measured by the World Bank and reported in Table 2. The differences are in general due to the fact that several of the surveys reported in this study are for sub-national samples, covering relatively poorer parts of the country. In Burkina Faso, for example, the $181 annual per capita consumption figure is less than the $230 per capita GNP figure reported by the 1997 *World Development Report*. The Burkina Faso Household Survey used in this study excludes better-off regions of the country, including Ouagadougou, the capital.[12] Similarly, the survey analyzed here for Guatemala was carried out to study health care seeking behavior and spending among areas heavily populated by Mayan Indians. Since Mayan Indians tend to be poorer on average than other groups in Guatemalan society, it is not surprising that the consumption figures reported here are relatively low.

It is also important to note peculiarities specific to each context. In Kazakhstan and Kyrgyzstan, for example, the fact that the government supplies housing and utilities at no direct cost or at a highly subsidized rate to the households makes the reported consumption spending lower than it would be

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[12] Overall levels of GNP also include production that is not reflected in the levels of household consumption that are measured in household surveys.

where households pay full housing and utilities' costs. For this reason and the inclusion of sub-national samples of poor areas, the figures should be viewed as indications of the *relative level* of consumption only—in other words, the consumption levels are reliable for placing households in the five quintiles, but not necessarily for measuring levels of welfare overall.

The distribution of overall household consumption among the different quintiles is interesting in the context of a study on equity in the health sector (Graph 4). Even though the distribution of consumption by itself does not provide direct information about individual's health status or health seeking behavior, this information can help to explain observed differences in the health sector. Moreover, differences in health spending by quintile can usefully be compared to differences in overall levels of consumption.

Graph 4. Percentage Distribution of Consumption
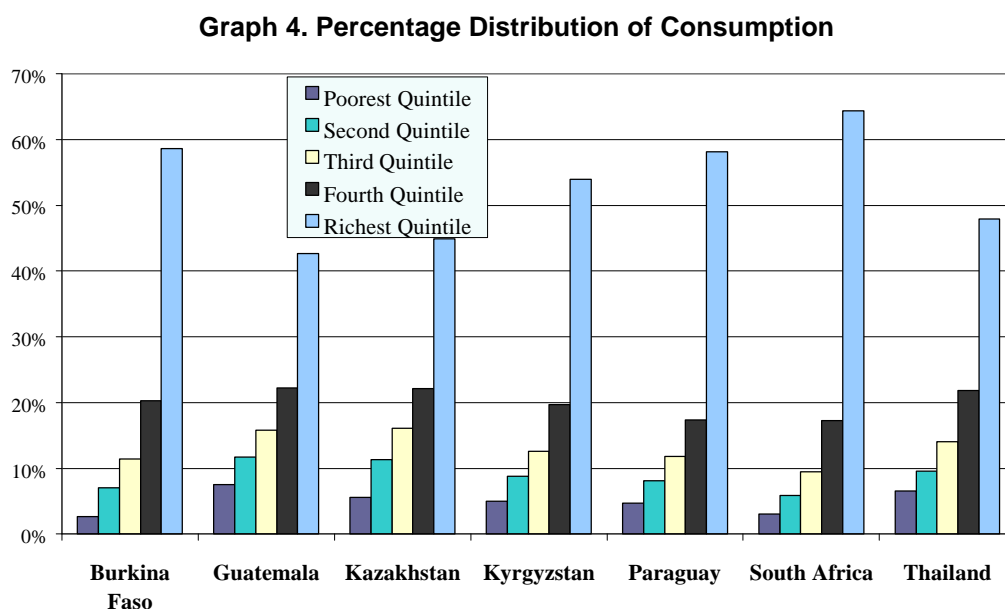
The distribution of overall consumption is highly unequal in all of the country studies with available data. In each of the countries, the wealthiest quintile consumes more than 42 percent of all household consumption, and in some countries a considerably higher percentage—58.6 percent in Burkina Faso and 64.3 percent in South Africa.

7.3   Overall Household Health Spending

Tables 11a and 11b present data on annualized per capita household health expenditures. In all countries but Zambia and South Africa, the levels of household health expenditures calculated from the household surveys are considerably higher than the levels of *public* per capita health expenditures reported in Table 2 and repeated in the final column of Table 11a. In Burkina Faso and Guatemala the difference is particularly notable; in the case of Burkina Faso, households spend $8 per capita for health care, and the government spends just $1.90.

Table 11a. Annual Per Capita Household Health Expenditures, by Quintile ($)

Country	Quintile (poorer to richer)						Average per capita:	
	Q1	Q2	Q3	Q4	Q5	Ratio Q5/Q1	HH Exp.	Gov't Exp
Burkina Faso	5	6	6	10	11	2:1	8	2
Guatemala*	19	28	63	60	182	10:1	58	12
Paraguay	27	48	57	77	66	2:1	52	42
South Africa	6	10	19	21	280	47:1	68	105
Thailand (1992)	16	19	25	38	92	6:1	38	17
Zambia	3	3	6	9	13	4:1	7	7

Sources for average per capita exp.: Country case studies; World Bank 1995 and 1997; and World Development Programme 1998.
Note: *Guatemala figures are for curative care only.

Table 11b. Annual Per Capita Household Health Expenditures, by Area of Residence ($)

Country	Area of Residence			
	Rural	Urban	Average	Ratio Urban/Rural
Burkina Faso	6	16	8	2.7:1
Guatemala*	47	103	58	2.2:1
Paraguay	45	56	52	1.2:1
South Africa	22	120	68	5.5:1
Thailand (1992)	27	49	38	1.8:1
Zambia	4	13	7	3.2:1

* Guatemala figures are for curative care only.

Unsurprisingly, in all of the countries, richer population groups spend more on health care, measured in absolute terms, than poorer groups. This pattern is *least* evident in Paraguay. The 1986 figures for Thailand (not shown in the table) were close to equality—the first quintile spent $15 annually per capita, compared to $25 for the fifth quintile. By 1992 (the figures shown in the table), the difference had grown considerably—the first quintile spent $16 per capita and the wealthiest quintile spent $92. In South Africa and Guatemala the ratios between the spending of the richest quintile and the poorest were the most skewed. In both cases this may be the result of the richer "opting out" of the care provided by subsidized government providers.

The level of government subsidy to health services and how it is distributed among income and residence groups is likely to influence out-of-pocket spending by the groups. In a separate study related to this work (Makinen, 1999), it was shown that government-subsidized care in Zambia is consumed more by the richer and the urban. One may infer from that information that equal consumption of government subsidized services across groups in Zambia might make higher (more progressive) the ratio of rich to poor and urban to rural out-of-pocket spending.

In all countries, urban residents spend more on health care than rural residents, in line with the conventional wisdom. This is also true for Thailand in both the 1986 and 1992 surveys. The difference is particularly striking in South Africa, where individuals in cities spend almost six times more per capita on health care than those in rural areas.

Graph 5 presents the distribution of household health spending across the consumption quintiles—dividing up total consumption among the quintiles so that the total comes to 100 percent. In all countries, there is a clear upward trend: wealthier quintiles account for a far greater percentage of total household spending on health care than do low income households. This trend is particularly marked in Burkina Faso, Guatemala, and South Africa. In South Africa, the fifth quintile accounts for a remarkable 83 percent of all household health care spending.

**Graph 5. Percentage Distribution of Household Health Spending**
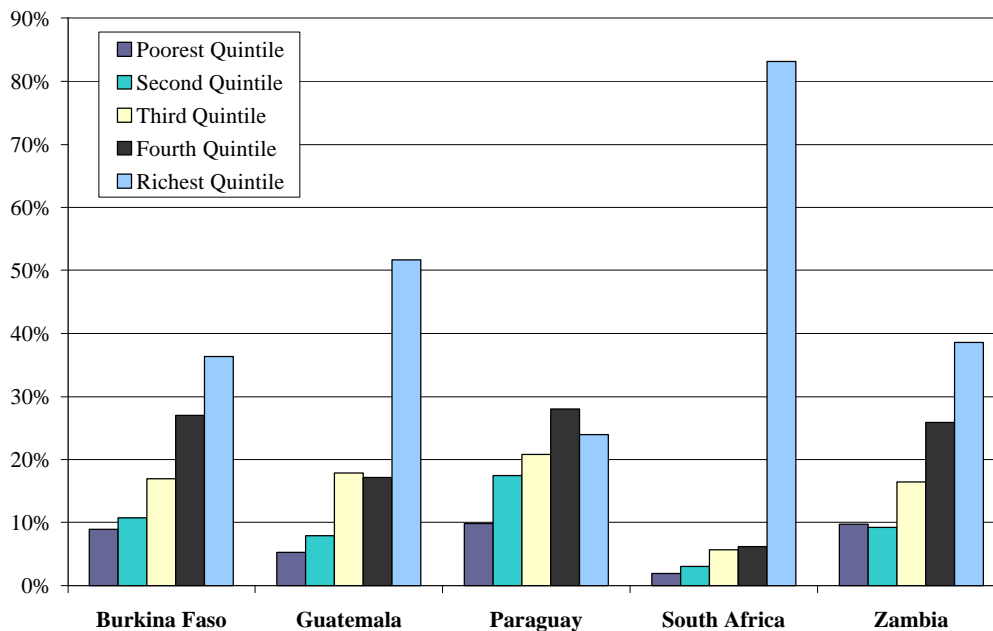
7.4   Health Spending as a Percentage of all Household Spending

Is the distribution of health care spending more unequal than the distribution of overall household income? The answer to this question can be obtained partially by analyzing the distribution of health expenditures as a percentage of total household consumption spending. Where the poor devote a higher percentage of their consumption expenditure to health than the rich, such spending would be considered regressive. The opposite situation (rich spend a higher percentage on health) would be considered progressive.

Five of the surveys contain enough information to perform this analysis, as shown in Graph 6. The results shown should be interpreted cautiously in the context of the earlier discussion concerning the measurement of consumption in the studies. While the estimates of household consumption spending are reliable for ranking households, it is less so for conclusions about the absolute level of consumption within the countries. The health expenditures are measured with a greater level of precision.

Graph 6. Health Spending as a Percentage of Total Household Spending
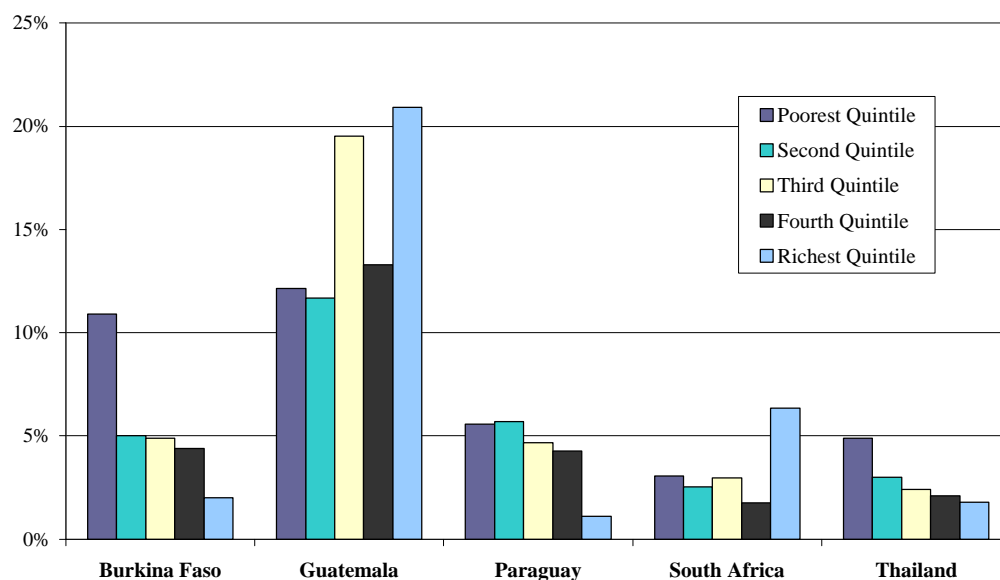
The results are notable from several perspectives. In Burkina Faso, Thailand, and Paraguay, the result is a regressive pattern of spending where the wealthier quintiles spend less of their total consumption on health care than do the poorer quintiles. However, in South Africa and Guatemala, this finding is reversed—richer groups tend to spend a higher percentage of their consumption on health care than do poorer groups. In these countries health care would appear to be a luxury good especially for the richest quintile, where these wealthier households allocate a higher percentage of their overall consumption spending to health care.

South Africa is a special case in that the pattern for quintiles 1 to 4 follows conventional wisdom. The highly skewed income distribution concentrates the minority white population in quintile 5. That population buys privately provided care or insurance cover for private care that is beyond the means of, if not outright unavailable to, the other 80 percent of the population.

In Thailand, Burkina Faso, and Paraguay, health care may well be considered to be a necessary good (like food and housing) and so takes up a relatively high percentage of poor families' spending. Additionally, there may be a shortage of accessible and inexpensive subsidized health care that would allow poorer households to reduce spending on health without sacrificing access to care.

8. Conclusions

This section reviews the results of the eight country studies from the perspective of the conventional wisdom concerning equity in the health sector. The main results are organized here in terms of those that support the conventional wisdom and those that do not. This section concludes with a discussion of the implication of the results for health care access for poor populations, comments on the pertinence of the results for policymakers, and implications of these results for future research.

8.1   Results Supporting the Conventional Wisdom

- Wealthier and urban population groups have a higher probability of obtaining health care when they need it. There is an upward trend by quintile in health care use for those reporting illness in all of the applicable countries, with the exception of Kyrgyzstan

- Wealthier consumption quintiles are more likely to be seen by a doctor than poorer groups, and in all of the country studies urban residents are more likely to be seen by doctors than those in rural areas.

- Richer and urban groups are more likely to receive medicines when they are ill in all of the countries except for Paraguay.

- In all cases richer groups spend more on drugs than poorer groups, and urban residents spend more on drugs than those in rural areas

- Richer population groups spend more on health care, measured in absolute terms, than poorer groups. In all countries, urban residents spend more on health care than rural residents.

8.2   Results *Not* Supporting the Conventional Wisdom

- The conventional wisdom that wealthier population groups are less often sick than poorer groups does not hold according to *self-reported* illness. In South Africa, Burkina Faso, and especially Kyrgyzstan, wealthier population groups have higher levels of *self-reported* morbidity.

- In Kazakhstan, Kyrgyzstan, and South Africa, rural residents use hospitals for curative care more frequently than do urban residents.

- There is no clear pattern that richer households are more likely to use the private sector. Only South Africa and Guatemala show a clear pattern of wealthier households being more likely to use privately provided health care.

- There is no clear pattern among the countries concerning the percentage of total reported household consumption spent on health care. In South Africa and Guatemala, richer groups

spend a higher percentage of their consumption on health care than do poorer groups. In Burkina Faso, Thailand, and Paraguay, there is a clear trend that the wealthier quintiles spend *less* of their total consumption on health care than do the poorer quintiles. N.B. These results should be considered tentative, given the difficulties in estimating absolute levels of consumption spending.

8.3   Usefulness and Additional Implications for Policymakers

These analyses indicate that reliance on conventional wisdom concerning inequalities in the health sector could result in misguided policy decisions. Conventional wisdom was confirmed in many, but not all cases. Thus, it is worthwhile to measure the direction and extent of inequality to identify problems and to gauge the success of policies designed to address inequalities.

The methods used in this work are relatively simple. Hence the results produced represent a baseline for comparison and a starting point for additional analyses to explain in greater detail unexpected results. Thus, the results begin to suggest an agenda of additional work to be done for each country.

From a policy perspective, measuring overall levels of *access* to care—defined as the use of health care by those who need it—is an essential input for health sector policy decision making. This study found relatively high levels of access in all of the countries except for Kyrgyzstan, where the household survey was conducted in a relatively isolated and underserved geographic area.

However, the distribution of access among different population groups is also critically important. Graph 2 shows that access to health care is unequally distributed to the advantage of the richer in nearly all of the countries studied. Further, richer households are considerably more likely to be seen by physicians when they seek care. Preferential access is not always related to greater use of private providers by relatively wealthy groups. Rather, access for the wealthier groups is related to their higher levels of health expenditures and their use of health services subsidized by the government.

The challenge for governments is to find mechanisms to provide quality health services at relatively low cost to poorer and rural populations, and thus to enable these population groups to attain the same levels of access to health care as those enjoyed by richer groups.

One strong advantage of the results reported here is that they are readily explained to, and understood by, policymakers. Each of the country studies uses comparisons among economic quintiles and also between urban and rural residents as the main divisions within countries. The results may be presented either in table format or as graphs that present the information in a visually striking manner.

Moreover, the studies report findings with intriguing possible implications for health sector policy. The results indicate that one opportunity for policymakers could be to examine the feasibility of facilitating greater use of private providers by the poor and residents of rural areas, since use of private providers by the poor and rural already is substantial in some cases. The conventional wisdom is that privately provided services serve mainly the richer. Meeting the needs of the poorer might be achieved by subsidizing demand for privately provided services by the relatively underserved poor and rural groups, among other measures. Another is to increase the proportion of publicly-financed health services consumed by disadvantaged groups. Potential strategies to achieve this goal include building health facilities and adding health personnel in disadvantaged rural areas and in urban slums.

8.4 Implications for Further Research

Several important suggestions arise from this study. From one methodological perspective, the study underlines the importance of conducting research that is comparable within and across countries when possible. This is particularly true for the wording of questions that are easily influenced by cultural interpretation and differences in perspectives. For example, it is dangerous to compare the morbidity results of the surveys across countries, because the surveys use different recall periods and slightly different wording for these morbidity questions. Because self-reported morbidity is difficult to measure with precision, surveys that do attempt to measure health status might better do so with questions about the individual's physical and mental capabilities (such as the Activities of Daily Living indices).

Another methodological perspective on this work is to recommend the application of more sophisticated analytic techniques to the data. Standardizations for age and sex distributions of the quintiles, the use of concentration curves and indices, and applying other multivariate techniques would be expected to help disentangle some of the findings.

The type of research reported in this document can be used to answer a series of important health sector policy questions. In addition to divisions by socioeconomic status and area of residence, it is clearly feasible to perform the same analysis using a male-female division, to explore differences in morbidity, health service use, and expenditures by gender. Additionally, the analytical methods employed here could quite feasibly be applied in the format of a pre- and post-test, to measure *ex ante* the impact of specific policy changes on inequality.

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